Biosafety Risk Assessment: Biological Agent Evaluation Worksheet

This worksheet is intended to be used in conjunction with the "Conducting a Biosafety Risk Assessment" Standard Operating Procedure. This is meant to be used in the "Consideration of Biological and Chemical Hazards" step and will allow for evaluation of procedure-independent considerations for a biological agent or toxin.

Biological Agent/Toxin Being Evaluated:

Date of Evaluation Completion:

Names of Individuals Involved in Conducting the Evaluation	
Name:	**Role:**

Information Sources Used for Evaluation:

Definitions

CDC/APHIS Select Agent	As listed at http://www.selectagents.gov/SelectAgentsandToxinsList.html
PAPR	Powered Air Purifying Respirator
PPE	Personal Protective Equipment

Vaccination

Is a vaccine available?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, is it recommended prior to work with this agent/toxin?*	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Classification

Risk group of agent/toxin:	1: ☐ 2: ☐ 3: ☐ 4: ☐		Unknown: ☐
Is the agent/toxin a CDC/APHIS Select Agent?	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Disinfection

Recommended disinfectants:	
Comments:	

Recommended PPE

Which of the following is recommended for work with this agent/toxin:	
Gloves:	

• Latex:	Yes: ☐	No: ☐	Unknown: ☐
• Nitrile:	Yes: ☐	No: ☐	Unknown: ☐
• Other (specify):			
Eye protection:			
• Safety glasses:	Yes: ☐	No: ☐	Unknown: ☐
• Goggles or face shield:	Yes: ☐	No: ☐	Unknown: ☐
• Goggles and face shield:	Yes: ☐	No: ☐	Unknown: ☐
Protective clothing:			
• Laboratory coat:	Yes: ☐	No: ☐	Unknown: ☐
• Sleeve covers:	Yes: ☐	No: ☐	Unknown: ☐
• Back-fastening gown:	Yes: ☐	No: ☐	Unknown: ☐
• Coveralls:	Yes: ☐	No: ☐	Unknown: ☐
• Liquid-impervious apron/gown:	Yes: ☐	No: ☐	Unknown: ☐
• Other (specify):			
Respiratory protection:			
• N95 Respirator/PAPR:	Yes: ☐	No: ☐	Unknown: ☐
• Half mask respirator:	Yes: ☐	No: ☐	Unknown: ☐
Mouth/nose splash protection:			
• Surgical mask:	Yes: ☐	No: ☐	Unknown: ☐
Foot/shoe protection:			
• Shoe covers:	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Inhalation Risk

Is this agent/toxin known to cause infection via inhalation (to cause infection via droplets or droplet nuclei that have entered the upper or lower respiratory tract):			
• In a laboratory setting?	Yes: ☐	No: ☐	Unknown: ☐
• In the natural environment?	Yes: ☐	No: ☐	Unknown: ☐
Is the infectious dose (ID_{50}) of this agent/toxin for the inhalation route known?			
• Is the inhalation infectious dose known?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, what is the infectious dose (ID_{50})?*			
↳*If yes, is the infectious dose less than 1000?*	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Percutaneous Exposure Risk

Is this agent/toxin known to cause infection via percutaneous exposure (to cause infection through compromised skin or direct injection into the blood stream):			
• In a laboratory setting?	Yes: ☐	No: ☐	Unknown: ☐
• In the natural environment?	Yes: ☐	No: ☐	Unknown: ☐
Is the infectious dose (ID_{50}) of this agent/toxin for the percutaneous exposure route known?			
• Is the percutaneous exposure infectious dose known?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, what is the infectious dose (ID_{50})?*			
↳*If yes, is the infectious dose less than 1000?*	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Mucosal Membrane Risk

Is this agent/toxin known to cause infection via direct contact with mucosal membranes:			
• In a laboratory setting?	Yes: ☐	No: ☐	Unknown: ☐
• In the natural environment?	Yes: ☐	No: ☐	Unknown: ☐
Is the infectious dose (ID_{50}) of this agent/toxin for the mucosal membrane route known?			
• Is the mucosal membrane infectious dose known?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, what is the infectious dose (ID_{50})?*			
↳*If yes, is the infectious dose less than 1000?*	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Ingestion Risk

Is this agent/toxin known to cause infection via ingestion (to cause infection via contact with the gastrointestinal tract):			
• In a laboratory setting?	Yes: ☐	No: ☐	Unknown: ☐
• In the natural environment?	Yes: ☐	No: ☐	Unknown: ☐
Is the infectious dose (ID_{50}) of this agent/toxin for the ingestion route known?			
• Is the ingestion infectious dose known?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, what is the infectious dose (ID_{50})?*			
↳*If yes, is the infectious dose less than 1000?*	Yes: ☐	No: ☐	Unknown: ☐
Comments:			

Post-Exposure Treatments

Do post-exposure treatments (including immuno-globulin, vaccines, and antimicrobials) exist?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, what are they?*			
Comments:			

Stability

Is this agent/toxin stable outside of a host?	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, specify this stability:*			
Comments:			

Location

Is this agent/toxin endemic:			
• In this state?	Yes: ☐	No: ☐	Unknown: ☐
• In this country?	Yes: ☐	No: ☐	Unknown: ☐
If only found outside of this country, in what geographic regions is this agent/toxin endemic?			
Comments:			

Non-Human Specimen Sources

Are specimens from non-human sources tested in this institution?	Yes: ☐	No: ☐	Unknown: ☐

↳*If yes, considering the host range, could this agent/toxin be present in non-human sources tested in this institution?*	Yes: ☐	No: ☐	Unknown: ☐
↳*If yes, in what non-human sources tested in this institution could this agent/toxin be present?*			
Comments:			

Sources

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   3.1. https://my.absa.org/tiki-download_file.php?fileId=3175
4. Sandia Report SAND2010-6487 Biosafety Risk Assessment Methodology (Susan Caskey et al., printed October 2010)
   4.1. http://biosecurity.sandia.gov/BioRAM/Biosafety%20Risk%20Assessment%20Report.pdf